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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/715,013	11/20/2000	Keunsuk P. Chang	361752000500	7915

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EXAMINER

NGUYEN, KIMBERLY T

ART UNIT	PAPER NUMBER
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1774

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DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=4

Office Action Summary

Application No.

09/715,013

Applicant(s)

CHANG ET AL.

Examiner

Kimberly T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim ²⁴4, the phrase "metal layer" is unclear since Applicants appear to claim three additional layers in the "metal layer."

Claims 2 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of *elements*, such omission amounting to a gap between the necessary structural connections. See MPEP §2172.01. The omitted structural cooperative relationships are: there is no interrelation of the heat sealable layer or winding layer of claim 2 with the metal layer or polyolefin resin layer of claim 1. ✓

Claim 10 is unclear as to the process included in the product claim. It is not understood why "is treated to provide a surface for lamination or coating..." is included in these claims. Additionally, this method step seems to be part of a process, although no process is claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made

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to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-13, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa shows a laminate film comprising a polypropylene (column 2, lines 50-66) polyolefin-based mixed resin layer having a discharge-treated surface, an aluminum metal layer (column 4, lines 10-16), and a heat seal layer or wrapping layer (winding layer) (Figure 1) comprising an antiblocking agent of irregular silica (amorphous silica) in an amount of about 0.05 to 0.5% by weight (column 4, lines 48-55). Kurokawa shows that the surface of the polyolefin-based mixed resin layer is discharge-treated in a N₂ atmosphere (column 6, lines 17-20). Thus, this polyolefin-based mixed resin layer comprises nitrogen functional groups on the surface. Kurokawa shows that the heat seal layer has a thickness of 0.5 to 5.0 micrometers (column 4, lines 46-48). Kurokawa shows that the heat seal layer comprises a ternary copolymer of ethylene/propylene/butene (column 4, lines 40-48). Kurokawa shows that the heat seal/wrapping layer comprises block copolymers of polypropylene and one or more other polymers whose surfaces are roughened and matted (column 5, lines 18-26). Kurokawa shows that the metal layer has a thickness of about 5-60nm (column 4, lines 18-31).

Kurokawa does not show that the polyolefin resin layer has at least 0.3% nitrogen functional groups as in instant claim 1. Kurokawa does not show an optical density of at least about 2.6 as in instant claims 1 and 12. Kurokawa does not show that the polyolefin-based mixed resin layer the thickness as in instant claim 4. However, percentages of functional nitrogen functional groups, optical densities, thicknesses are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of these ranges,

absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operating conditions (e.g. percentages of nitrogen functional groups, optical density, thickness) fails to render claims patentable in the absence of unexpected results.

Claim 10 is a product-by-process claim. “[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *See* MPEP §2113.

Claims 3, 6-18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa shows a laminate film comprising a polypropylene (column 2, lines 50-66) polyolefin-based mixed resin layer (*second* polyolefin layer) having a discharge-treated surface, an aluminum metal layer (column 4, lines 10-16), a polyolefin-based resin layer (*first* polyolefin layer), and a heat seal layer or wrapping layer (winding layer) (Figure 1) comprising an antiblocking agent of irregular silica (amorphous silica) in an amount of about 0.05 to 0.5% by

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weight (column 4, lines 48-55). Kurokawa shows that the surface of the polyolefin-based mixed resin layer is discharge-treated in a N₂ atmosphere (column 6, lines 17-20). Thus, this polyolefin-based mixed resin layer comprises nitrogen functional groups on the surface. Kurokawa shows that the heat seal layer has a thickness of 0.5 to 5.0 micrometers (column 4, lines 46-48). Kurokawa shows that the heat seal layer comprises a ternary copolymer of ethylene/propylene/butene (column 4, lines 40-48). Kurokawa shows that the heat seal/wrapping layer comprises block copolymers of polypropylene and one or more other polymers whose surfaces are roughened and matted (column 5, lines 18-26). Kurokawa shows that the metal layer has a thickness of about 5-60nm (column 4, lines 18-31). Kurokawa shows that the polyolefin-based mixed resin layer comprises additives of petroleum or terpene resins (column 2, lines 50-53) in an amount of about 5-30% of the polyolefin-based mixed resin layer in order to enhance metal adhesion (column 3, lines 31-46) or lubricants or viscosity modifiers (column 3, lines 1-5). Kurokawa shows that the resin additive is contained in an amount of about 5-30% by weight of the polyolefin-based mixed resin layer (column 3, lines 43-46).

Kurokawa does not show that the polyolefin resin layer has at least 0.3% nitrogen functional groups as in instant claim 3. Kurokawa does not show an optical density of at least about 2.6 as in instant claim 3. Kurokawa does not show that the polyolefin-based mixed resin layer the thickness as in instant claim 15. However, percentages of functional nitrogen functional groups, optical densities, thicknesses are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of these ranges, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order

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to optimize operating conditions (e.g. percentages of nitrogen functional groups, optical density, thickness) fails to render claims patentable in the absence of unexpected results.

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317 in view of Tanizaki et al., U.S. Pat. No. 5,998,039.

Kurokawa is relied upon as above for claims 3 and 14. Kurokawa shows that the polyolefin-based mixed resin layer comprises additives of petroleum or terpene resins (column 2, lines 50-53) in an amount of about 5-30% of the polyolefin-based mixed resin layer in order to enhance metal adhesion (column 3, lines 31-46).

Though Kurokawa shows lubricants or viscosity modifiers (column 3, lines 1-5) in the polyolefin-based mixed resin layer, Kurokawa does not show the waxes as in instant claims 19 and 20.

Tanizaki shows a food packaging polypropylene film wherein the polypropylene film contains additives such as lubricants of polyethylene waxes (column 24, line 39 to column 26, line 48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lubricant waxes of the instant invention in Kurokawa since it is known that such waxes provide desirable slip properties to polypropylene layers in food packaging products.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa is relied upon as above for claims 1-3.

Kurokawa does not specifically show the metal layer structure of instant claim 24; however, Kurokawa shows that the metal layer comprises aluminum and alloys thereof (column 4, lines 10-17). Thus, it would have been obvious to one of ordinary skill in the art at the time

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the invention was made to make a metal layer as in Applicants' invention because it would be obvious to optimize the thickness and number of duplicate aluminum layers with desirable concentrations of aluminum in each layer. Thickness and concentrations are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the thicknesses and concentrations, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operating conditions (e.g. thickness and concentration) fails to render claims patentable in the absence of unexpected results.

Claims 25-26, 28-37, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa shows a laminate film comprising a polypropylene (column 2, lines 50-66) polyolefin-based mixed resin layer having a discharge-treated surface, an aluminum metal layer (column 4, lines 10-16), and a heat seal layer or wrapping layer (winding layer) (Figure 1) comprising an antiblocking agent of irregular silica (amorphous silica) in an amount of about 0.05 to 0.5% by weight (column 4, lines 48-55). Kurokawa shows that the surface of the polyolefin-based mixed resin layer is discharge-treated in a N₂ atmosphere (column 6, lines 17-20). Thus, this polyolefin-based mixed resin layer comprises nitrogen functional groups on the surface. Kurokawa shows that the heat seal layer has a thickness of 0.5 to 5.0 micrometers (column 4, lines 46-48). Kurokawa shows that the heat seal layer comprises a ternary copolymer of ethylene/propylene/butene (column 4, lines 40-48). Kurokawa shows that the heat seal/wrapping layer comprises block copolymers of polypropylene and one or more other

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polymers whose surfaces are roughened and matted (column 5, lines 18-26). Kurokawa shows that the metal layer has a thickness of about 5-60nm (column 4, lines 18-31).

Though Kurokawa shows oxygen transmission properties in Tables 1-3, Kurokawa does not show the barrier durability or oxygen transmission rates of claim 25. Further, Kurokawa does not show an optical density of at least about 2.6 as in instant claims 25 and 36. Kurokawa does not show that the polyolefin-based mixed resin layer the thickness as in instant claim 28. However, such ranges and optical densities are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of these ranges and optical densities, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operating conditions (e.g. ranges and optical densities) fails to render claims patentable in the absence of unexpected results.

Claim 34 is a product-by-process claim. “[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *See* MPEP §2113.

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Claims 27, 30-42 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa shows a laminate film comprising a polypropylene (column 2, lines 50-66) polyolefin-based mixed resin layer (*second* polyolefin layer) having a discharge-treated surface, an aluminum metal layer (column 4, lines 10-16), a polyolefin-based resin layer (*first* polyolefin layer), and a heat seal layer or wrapping layer (winding layer) (Figure 1) comprising an antiblocking agent of irregular silica (amorphous silica) in an amount of about 0.05 to 0.5% by weight (column 4, lines 48-55). Kurokawa shows that the surface of the polyolefin-based mixed resin layer is discharge-treated in a N₂ atmosphere (column 6, lines 17-20). Thus, this polyolefin-based mixed resin layer comprises nitrogen functional groups on the surface. Kurokawa shows that the heat seal layer has a thickness of 0.5 to 5.0 micrometers (column 4, lines 46-48). Kurokawa shows that the heat seal layer comprises a ternary copolymer of ethylene/propylene/butene (column 4, lines 40-48). Kurokawa shows that the heat seal/wrapping layer comprises block copolymers of polypropylene and one or more other polymers whose surfaces are roughened and matted (column 5, lines 18-26). Kurokawa shows that the metal layer has a thickness of about 5-60nm (column 4, lines 18-31). Kurokawa shows that the polyolefin-based mixed resin layer comprises additives of petroleum or terpene resins (column 2, lines 50-53) in an amount of about 5-30% of the polyolefin-based mixed resin layer in order to enhance metal adhesion (column 3, lines 31-46) or lubricants or viscosity modifiers (column 3, lines 1-5). Kurokawa shows that the resin additive is contained in an amount of about 5-30% by weight of the polyolefin-based mixed resin layer (column 3, lines 43-46).

Kurokawa does not show an optical density of at least about 2.6 as in instant claims 27 and 36. Kurokawa does not show that the polyolefin-based mixed resin layer the thickness as in instant claim 39. However, optical densities and thicknesses are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of these ranges, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operating conditions (e.g. optical density, thickness) fails to render claims patentable in the absence of unexpected results.

Claim 34 is a product-by-process claim. “[E]ven though product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). *See* MPEP §2113.

Claims 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317 in view of Tanizaki et al., U.S. Pat. No. 5,998,039.

Kurokawa is relied upon as above for claims 27 and 38. Kurokawa shows that the polyolefin-based mixed resin layer comprises additives of petroleum or terpene resins (column 2,

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lines 50-53) in an amount of about 5-30% of the polyolefin-based mixed resin layer in order to enhance metal adhesion (column 3, lines 31-46).

Though Kurokawa shows lubricants or viscosity modifiers (column 3, lines 1-5) in the polyolefin-based mixed resin layer, Kurokawa does not show the waxes as in instant claims 43 and 44.

Tanizaki shows a food packaging polypropylene film wherein the polypropylene film contains additives such as lubricants of polyethylene waxes (column 24, line 39 to column 26, line 48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lubricant waxes of the instant invention in Kurokawa since it is known that such waxes provide desirable slip properties to polypropylene layers in food packaging products.

Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurokawa et al., U.S. Pat. No. 5,698,317.

Kurokawa is relied upon as above for claims 25-27.

Kurokawa does not specifically show the metal layer structure of instant claim 46; however, Kurokawa shows that the metal layer comprises aluminum and alloys thereof (column 4, lines 10-17). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make a metal layer as in Applicants' invention because it would be obvious to optimize the thickness and number of duplicate aluminum layers with desirable concentrations of aluminum in each layer. Thickness and concentrations are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the thicknesses and concentrations, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation.

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The experimental modification of prior art in order to optimize operating conditions (e.g. thickness and concentration) fails to render claims patentable in the absence of unexpected results.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Nguyen whose telephone number is (703) 308-8176.

The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for before final communications and (703) 872-9311 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

